IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Patent No.	:	7,150,860
Issued:	:	December 19, 2006
Inventor(s)	:	Paolo Palmas et al.
Title of Invention	:	Process and Apparatus for Quick Feed Contacting with Immediate Vapor Disengagement
Docket No.	:	105345
Customer No.	:	23490

Commissioner for Patents
Attn: Certificate of Correction Branch
P.O. Box 1450
Alexandria, VA 22313-1450

July 2, 2007

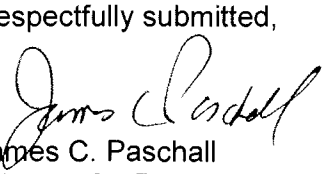
REQUEST FOR CERTIFICATE OF CORRECTION OF PATENT FOR PTO MISTAKE (37 C.F.R. § 1.322(a))

Sir:

Attached, in duplicate, is Form PTO-1050 with at least one copy being suitable for printing. In accord with the requirements of the "Expedited Issuance of Certificates of Correction When the Error is Attributable to the United States Patent and Trademark Office" (Official Gazette, September 17, 2002), Patentee encloses a copy of the Amendment After Final dated July 17, 2006, which shows the correct wording of the subject claims.

It is believed that the enclosed documentation unequivocally supports Patentee's assertion that the error incurred through the fault of the PTO. Therefore, the requirements for expedited issuance of the Certificate of Correction are met. It is believed that no fee is required.

Respectfully submitted,



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UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO.: 7,150,860
DATED: December 19, 2006
INVENTORS: Paolo Palmas et al.

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

In Claim 1:

column 8, line 5, after "vapor;" insert the phrase "a disengaging region above and below said work point;"

column 8, line 8, after "inlet being disposed" insert "in said disengaging region"

column 8, line 8, "join" should be corrected to "joint"

In Claim 8:

column 8, line 39, after "vapor;" insert the phrase "a disengaging region above and below said work point;"

column 8, line 43, after "said inlet being disposed" insert the phrase "in said disengaging region"

In Claim 15:

column 9, line 11, after "vapor;" insert the phrase "discharging said catalyst and hydrocarbon product vapor horizontally into a disengaging region;"

column 9, line 14, after "disposed" insert the phrase "in said disengaging region"

MAILING ADDRESS OF SENDER:

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PATENT NO. 7,150,860

No. of add'l copies

→ 0

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No.	:	09/837,687	Confirmation No. 7848
Applicant	:	Paolo Palmas et al.	
Filed	:	April 18, 2001	
TC/A.U.	:	1764	
Examiner	:	Alexa D. Neckel	
Docket No.	:	105345	
Customer No.	:	23490	

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Commissioner for Patents
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Alexandria, VA 22313-1450

AMENDMENT AFTER FINAL

Sir:

In reply to the Final Office action mailed June 20, 2006, please amend the above-identified application as follows:

Amendments to the Claims are reflected in the listing of claims which begins on page 2 of this paper.

Remarks/Arguments begin on page 5 of this paper.

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claim 1 (currently amended): A reactor vessel comprising:

a catalyst nozzle for delivering catalyst to said reactor vessel;

a feed nozzle for delivering feed to said reactor vessel, said feed nozzle joining said catalyst nozzle at a joint proximate to a work point at which said catalyst contacts said feed to convert said feed to yield product vapor;

a disengaging region above and below said work point;

a transport conduit having an inlet for receiving said product vapor and entrained catalyst and an outlet, said inlet being disposed in said disengaging region vertically higher than said joint between said feed nozzle and said catalyst nozzle; and

a cyclone having an inlet directly communicating with said outlet of said transport conduit, said cyclone communicating with a vapor outlet extending from said vessel and a dipleg extending downwardly from said cyclone for transporting catalyst toward a base of said reactor vessel.

Claim 2 (original): The reactor vessel of claim 1 further comprising a stripping section at the base of reactor vessel for stripping product vapors from said catalyst.

Claim 3 (original): The reactor vessel of claim 2 wherein said stripping section includes a series of trays and stripping medium is injected into said stripping section.

Claim 4 (original): The reactor vessel of claim 1 wherein said catalyst nozzle includes a slot for generating a curtain of catalyst.

Claim 5 (original): The reactor vessel of claim 4 wherein said feed nozzle includes a feed contactor for injecting feed into said curtain of catalyst.

Claim 6 (original): The reactor vessel of claim 4 wherein said catalyst nozzle includes a funnel section that dispenses through said slot.

Claim 7 (original): The reactor vessel of claim 1 wherein said inlet faces away from said work point.

Claim 8 (currently amended): A catalytic cracking reactor vessel comprising:

a catalyst nozzle for delivering catalyst to said reactor vessel;

a feed nozzle for delivering feed to said reactor vessel, said feed nozzle joining said catalyst nozzle at a joint proximate to a work point at which said catalyst contacts said feed to crack said feed to yield product vapor;

a disengaging region above and below said work point;

a transport conduit having an inlet facing away from the work point, said inlet for receiving said product vapor and entrained catalyst, and an outlet, said inlet being disposed in said disengaging region vertically higher than said joint between said feed nozzle and said catalyst nozzle; and

a cyclone in said reactor vessel, said cyclone having an inlet directly communicating with said outlet of said transport conduit, said cyclone communicating with a vapor outlet extending from said vessel and a dipleg extending downwardly from said cyclone for transporting catalyst toward a base of said reactor vessel.

Claim 9 (original): The reactor vessel of claim 8 further comprising a stripping section at the base of reactor vessel for stripping product vapors from said catalyst.

Claim 10 (original): The reactor vessel of claim 9 wherein said stripping section includes a series of trays and stripping medium is injected into said stripping section.

Claim 11 (original): The reactor vessel of claim 8 wherein said catalyst nozzle includes a slot for generating a curtain of catalyst.

Claim 12 (original): The reactor vessel of claim 11 wherein said feed nozzle includes a feed contactor for injecting feed into said curtain of catalyst.

Claim 13 (original): The reactor vessel of claim 11 wherein said catalyst nozzle further includes a funnel section that dispenses through said slot.

Claim 14 (original): The reactor vessel of claim 8 including a heat nozzle for delivering catalyst to said stripping section.

Claim 15 (currently amended): A process for cracking a heavy hydrocarbon feed to a light hydrocarbon product comprising:

delivering catalyst to a reactor vessel through a catalyst nozzle;

delivering heavy hydrocarbon feed to said reactor vessel through a feed nozzle, said feed nozzle joining said catalyst nozzle at a joint;

contacting said catalyst and said heavy hydrocarbon feed at a work point proximate to said joint to convert said heavy hydrocarbon feed to light hydrocarbon product vapor;

discharging said catalyst and hydrocarbon product vapor horizontally into a disengaging region;

withdrawing said product vapor and entrained catalyst through an inlet in a transport conduit, said inlet being disposed in said disengaging region vertically higher than said joint between said feed nozzle and said catalyst nozzle;

transporting said light hydrocarbon product vapor from said inlet through an outlet in said transport conduit directly to a cyclone; and

separating said entrained catalyst from said light hydrocarbon product vapor in said cyclone.

Claim 16 (original): The process of claim 15 further comprising expelling said catalyst from a dipleg of said cyclone.

Claim 17 (original): The process of claim 16 further comprising stripping said catalyst expelled from said dipleg of entrained hydrocarbons.

Claim 18 (original): The process of claim 15 further comprising expelling said lighter hydrocarbon product vapor from an outlet of said cyclone.

Claim 19 (original): The process of claim 15 further comprising generating a curtain of catalyst before said catalyst is contacted with said heavy hydrocarbon feed.

REMARKS/ARGUMENTS

In reply to the Final Office Action mailed June 20, 2006, Applicants respectfully request reconsideration and allowance. In the Final Office Action, the Examiner rejected claims 1-19 in the subject application for anticipation under 35 U.S.C. §102(e) as being anticipated by U.S. Patent 6,063,263 (the "Palmas patent") incorporating U.S. Patent 5,565,020 (the "Niewiedzial patent"). In reply, Applicants have amended claims 1, 8 and 15. Accordingly, claims 1-19 remain pending in the subject application.

Applicants would like to express their gratitude to the Examiner for taking the time to discuss the subject application with Applicants' undersigned representative over the telephone on July 12, 2006. Applicants will endeavor to present herein what was discussed in the interview.

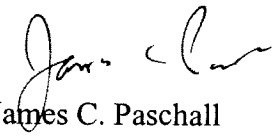
Applicants have amended claims 1 and 8 to recite "a disengaging region above and below said work point" and that the inlet to the transport conduit is in the disengaging region. Support for this amendment is provided in paragraph [0024], specifically on lines 19-20 of page 10 and FIG. 1 which shows that the inlet 44 to the transport conduit 22 is disposed in the disengaging region 12. Claim 15 has been amended to recite that catalyst and hydrocarbon product vapor are discharged horizontally into a disengaging region and that an inlet of a transport conduit which withdraws the product vapor and entrained catalyst is disposed in the disengaging region. Support for this amendment is found also at paragraph [0024], specifically on page 10, lines 11-13. Moreover, FIG. 1 shows that the inlet 44 to the transport conduit 22 is located in the disengaging region 12. Applicants respectfully submit that no new matter is added by this amendment. Applicants request the Examiner to enter the amendments proposed because they put the claims in the application in a condition for allowance.

The Niewiedzial patent does not disclose a transport conduit having an inlet in a disengaging region above and below the point where catalyst and product gases are discharged into a vessel or in the horizontal trajectory therefrom. Moreover, the conduit 15' in the Palmas patent does not have an outlet directly communicating with an inlet of a

cyclone. Applicants respectfully submit that independent claims 1, 8 and 15 are distinct over the cited references. Moreover, at least for the same reasons, dependent claims 2-7, 9-14 and 16-19 are believed to be patentable over the cited references.

For the foregoing reasons, Applicants respectfully request reconsideration and allowance of all of the claims 1-19 pending in the subject application. Should the Examiner have any further concerns, please contact the undersigned.

Respectfully submitted,



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Date: July 17, 2006

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